

AMENDMENTS TO THE CLAIMS

This listing will replace prior versions, and listings of claims in the above-captioned patent application.

1. (Currently Amended) A metering tip capable of aspirating and dispensing a quantity of fluid, said metering tip being attachable to a metering apparatus and comprising:

a tapered plastic body including an interior, an upper tip opening and a lower tip opening used for aspirating and dispensing the fluid;

said interior including a plurality of adjacent stepped areas, each of said stepped areas including a sharp diametrical edge at the junction of the surface of an interior region and the surface of the stepped area, said surfaces being substantially orthogonal and wherein said sharp diametrical edge latches a meniscus of the fluid and minimizes oscillation of the fluid, said tip further including an axial cylindrical portion having a read window ~~planar interior and exterior surfaces and a substantially constant internal diameter~~ to permit an optical instrument to directly view therethrough a volume of fluid contained in said axial portion, ~~said axial portion defining a read window~~, said tip further including at least one stepped area disposed between said defined read window and said upper tip opening, and in which said plurality of adjacent stepped areas are axially disposed between said lower tip opening and said read window.

2. (Canceled).

3. (Canceled).

4. (Canceled).

5. (Canceled).

6. (Currently Amended) A metering tip capable of aspirating and dispensing a quantity of fluid, said metering tip comprising:

a tapered plastic body including an interior, an upper tip opening and a distal lower tip opening used for aspirating and dispensing the fluid, said body further including ~~tip being attachable to a metering apparatus, said interior comprising~~ an axial cylindrical portion having a substantially constant internal diameter, at least a portion of

said axial cylindrical portion defining a read window that permits an optical instrument to directly measure fluid retained in said axial region therethrough while ~~said tip remains attached to a metering apparatus;~~

the interior of said axial portion interior including at least one stepped area having a sharp diametrical edge at the junction of the surface of an interior region and surface of the stepped area, said surfaces being substantially orthogonal and wherein said sharp diametrical edge is used to latch a meniscus of the fluid and reduce oscillation of ~~the a dispensed~~ fluid, wherein said at least one stepped area is disposed above said read window ~~to permit accurate optical readings of a fluid volume through said tip through said defined read window, said tip further including a plurality of adjacent stepped areas disposed between said lower tip opening and said read window.~~

7. (Canceled).

8. (Canceled).

9. (Currently Amended) A method for reducing fluid oscillation of fluid in a metering tip, said method including the steps of:

i) attaching a metering tip to a metering apparatus;

ii) aspirating the fluid into said metering tip, said tip comprising at least one stepped area within the interior of the metering tip, each said at least one stepped area including a sharp diametrical edge at the junction of the surface of an interior region and surface of the stepped area, said surfaces being substantially orthogonal; and

iii) moving a meniscus of fluid past the sharp diametrical edge thereby for latching the meniscus of the fluid passing said at least one stepped area and thereby reducing oscillation of the fluid in the metering tip wherein said metering tip includes an axial cylindrical section defining having a read window wherein one of said at least one stepped areas is located above said read window, wherein said stepped area flattens the upper meniscus of a retained volume of fluid within said tip ~~in order to permit an accurate optical reading of the volume retained within said axial portion directly through said tip through said defined read window by an optical instrument while said tip is attached to said metering apparatus.~~

10. (Canceled).

11. (Previously Presented) A method as recited in Claim 9, wherein said metering tip includes an upper tip opening, a lower tip opening and in which said fluid is aspirated into the lower tip opening of said metering tip during said aspirating step.

12. (Currently Amended) A method as recited in Claim 10, including the additional steps of drawing fluid up into the interior of said metering tip and sealing the lower tip opening of said metering tip prior to performing a spectrophotometric read of said fluid directly through said read window ~~while said tip remains attached to said metering apparatus.~~

13. (Currently Amended) A method for reducing fluid oscillation for a fluid retained within a metering tip, said method including the steps of:

i) attaching a metering tip to a metering apparatus;

ii) aspirating an initial volume of fluid into said metering tip, said tip comprising a lower tip opening, an upper tip opening and an interior, said interior further comprising at least one stepped area, said at least one stepped area including a sharp diametrical edge at the junction of the surface of an interior region and the surface of the stepped area, said surfaces being substantially orthogonal, said tip further including an axial cylindrical portion ~~having planar interior and exterior surfaces defining~~ having a read window; and

iii) moving a meniscus of fluid past the sharp diametrical edge thereby for latching the fluid, a meniscus of the fluid passing said at least one stepped area and thereby reducing oscillation of the fluid in the metering tip.

14. (Previously Presented) A method as recited in Claim 13, wherein said method includes the step of dispensing retained fluid onto at least one reaction device, wherein said at least one stepped area is disposed proximate to said lower tip opening to latch a lower meniscus of dispensed fluid to reduce oscillations thereof during the dispense step.

15. (Previously Presented) A method as recited in Claim 14, wherein said at least one stepped area includes a plurality of adjacent stepped areas disposed in relation to said lower tip opening.

16. (Currently Amended) A method as recited in Claim 13, including the additional steps of:

dispensing portions of the initial volume of aspirated fluid onto at least one reaction device;

aspirating the remaining volume of fluid, said remaining volume being the difference between said initial volume and the volume of said dispensed portions into said axial portion of said tip, said tip including at least one stepped area above immediately above said read window to latch an upper meniscus of said retained fluid to flatten said meniscus to permit an accurate optical reading of said retained volume.

17. (Currently Amended) A method as recited in Claim 16, wherein said remaining fluid volume is ~~directly~~ accessible through the tip through said defined read window by an optical instrument without intermediate structure while attached to said metering apparatus.